California Energy Commission

STAFF REPORT

LOCALIZED HEALTH IMPACTS REPORT

Addendum For Selected Biomethane Production Projects Awarded Funding Through the Alternative and Renewable Fuel and Vehicle Technology Program Under Solicitation PON-09-003

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ADDENDUM

The *Localized Health Impacts Report for Selected Biomethane Production Projects Awarded Funding Through the Alternative and Renewable Fuel and Vehicle Technology Program Under Solicitation PON-09-003* was posted May 18, 2010, and the 30-day public comment period ended June 17, 2010. On January 28, 2011, the California Energy Commission posted a Revised Notice of Proposed Awards resulting in an additional project proposed for funding under PON-09-003. This addendum assesses and reports on the potential localized health impacts of this additional fuel production project recommended for funding in the current 2010-2011 funding cycle.

The project assessed in this addendum is:

- CR&R Incorporated's, "CR&R MSW to Biomethane Project"

This project requires a full assessment and will be subject to the 30-day public review period that applies to projects that have a potential effect on low-income communities highly impacted by pollution. The table below summarizes the project and its surrounding community.

Table 1: Community Status and Project Overview

Project	At-Risk Community	CEQA Completed	Air District Permit Status	Attainment Status for Ozone, PM(2.5), PM(10)
CR&R	X	X	In Progress	Non-Attainment (All)

Source: Energy Commission staff analysis

The following is an overview of the project including a project description, information on the existing site, discussion of the potential health impacts related to air pollutants, and outreach efforts explicitly identified in the project proposal. In addition, demographic data for the known or planned project location is provided in Table 4.

Staff reviewed results from the Environmental Justice Screening Method (EJSM) to identify projects that are located in areas with social vulnerability indicators (for example, race/ethnicity, income, proximity to sensitive land use, and exposure to air pollution) and the greatest exposure to air pollution and associated health risks. For communities not yet assessed in the EJSM, the Energy Commission identified high-risk areas as those in non-attainment air basins for ozone, particulate matter (PM) (2.5), and PM (10) that have high poverty and high minority rates, as well as a high percentage of sensitive populations.

Project Name

CR&R Incorporated's "CR&R MSW to Biomethane Project

Project Description

CR&R will construct a municipal solid waste (MSW) processing facility that will convert 50,000 tons per year of mixed municipal waste into renewable natural gas that will be used as a transportation fuel. CR&R is a large waste and recycling firm that serves 2.5 million customers and 40 municipalities in Southern California. The MSW processing facility will be constructed at CR&R's Perris, Riverside County, Material Recovery and Transfer Station (Perris MRF). The MSW will be separated from the general waste stream at the transfer station. CR&R will process the waste using a first-in-North America wet separation technology from Arrow Ecology to extract recyclable materials and segregate nonrecyclable inert waste. Biodegradable materials that are separated from the balance of the waste stream will be pumped into a two-stage anaerobic digestion system to produce renewable natural gas.

CR&R originally configured this project to produce biogas for power generation. Energy Commission funds will support CR&R's efforts to use this fuel for transportation fuel for their fleet. CR&R operates an alternatively fueled truck fleet of more than 100 refuse hauling vehicles and plans to add more alternatively fueled vehicles to its fleet. CR&R will use all of the renewable natural gas produced by this project for this fleet. The renewable natural gas will be cleaned to pipeline quality natural gas using proven technology from Purac of Sweden. The renewable natural gas will be injected into Sempra's natural gas pipeline where it will be distributed by Shell for use as a transportation fuel by CR&R's off-site fueling station in Garden Grove, California. The system upgrades funded by this project will include installation of new equipment to inject the renewable natural gas into the existing gas pipeline. CR&R will own and operate the facility; the City of Los Angeles will provide a long-term source of waste to the facility and a revenue base to support the project.

Project Site

The project will be located at the Riverside County/Perris Material Recovery and Transfer Station at 1706 Goetz Road, Perris, California. The project will use anaerobic digesters to make biogas from mixed municipal solid waste (MSW) from the Los Angeles at the existing material recovery and transfer facility. The location is currently permitted to accept the MSW feedstock for digestion. CR&R completed a mitigated negative declaration CEQA agreement with the City of Perris/Riverside County to increase the MSW tonnage from 1,800 tons per day to 3,000 tons per day. The biogas will be injected into an existing Sempra natural gas pipeline to CR&R's existing offsite fueling station for use in its natural gas vehicle fleet, which eliminates the need for an additional pipeline.

This facility is located in a nonattainment area for ozone, particulate matter (10 micron), and particulate matter (2.5 micron) pollutants. There are three schools, no day care centers, and no health care facilities within a mile of the project site.

Potential Impacts and Benefits

According to the CR&R Environmental Assessment conducted in 2007, some impacts are expected from expansion of the facility and the increased truck traffic needed to transport larger volumes of waste to the facility. Impacts from the expansion and increased tonnage include water runoff, increased hazardous materials at the facility, air quality impacts from increased waste and traffic into the facility, and short-term construction emissions. The Energy Commission is funding a modification to the original project that will allow the renewable natural gas to be used for transportation. The only identified net increase in emissions will be from emergency flaring on the anaerobic digester. These emissions are difficult to quantify, as the emergency flare will be not by used on an ongoing basis.

According to the California Air Resources Board's *Air Quality Guidance for Siting Biorefineries in California* there are criteria emissions associated with anaerobic digestion processes. However the emissions are considered minimal, and with the Best Available Control Technology, the most stringent emission limits for the criteria emissions can be achieved. The environmental assessment indicated that the following factors may have an impact on the surrounding communities. However, it is important to note that these impacts are not attributed to the expansion of the project that will enable transportation fuel production. The environmental impact report analyzed project impacts and criteria and toxic emissions. Energy Commission staff summarized these impacts below.

For a five-acre disturbance area with the use of only minimum construction dust control, daily PM1O emissions during site grading could reach 132 pounds per day. The South Coast Air Quality Management District (SCAQMD) significance threshold of 150 pounds per day would not be exceeded. With the use of Best Available Control Measures (BACM), daily PM_{10} emissions are reduced to 50 pounds per day, or well below the AQMD's significance threshold. Use of BACMs is required for all construction activities. Since the threshold for PM_{10} is three times the generation rate for a mitigated five-acre site, up to 15 acres may be graded per day without exceeding the threshold.

The proposed expansion requires the construction of approximately 10.85 acres of paved parking lots and processing areas. This will increase the amount of impermeable surface and, thus, increase site runoff. Without proper mitigation, this runoff could contribute to the local area and regional storm flows. There is also a potential for any storm water leaving the site to contain pollutants, such as grease and oil from parking lots. Waste materials coming into contact with storm water may result in a degradation of surface and groundwater quality. To protect surface and groundwater, all material handling activities occur within enclosed buildings or on paved surfaces. The operations area is completely paved in asphalt concrete or Portland concrete to further protect surface and groundwater from possible contamination.

Operational impacts will result from a combination of onsite activities (waste handling, sorting, recycling, and loading transfer vehicles) and from on-road travel by collection recycling and transfer vehicles. Onsite emissions will include exhaust from on-road vehicles and from materials handling equipment, dust from refuse and construction and demolition processing, and odors from trash and green waste.

CR&R expects this project to bring improvements to air quality, especially as more firms adopt the anaerobic digester technology to generate vehicle fuel. The anaerobic digestion project will improve air quality by reducing odors and emissions from the MSW at the landfill. Anaerobic digestion of the waste eliminates the need to landfill the waste. By diverting this waste to digesters, emission reductions are realized. Since the biomethane will be compressed and injected into the Sempra natural gas pipeline, there will be no onsite emissions as there would be if the biomethane were burned in an internal combustion engine to make electricity. Additionally, no new emissions are generated through the delivery of the fuel to offsite stations because the biogas is injected directly into the pipeline.

The emissions associated with the disposal of 3,000 tons per day (tpd) in 2008 at the transfer station will generate fewer emissions than those currently generated by on-road traffic from the disposal of 1,800 tpd in 2006. Furthermore, it is anticipated that the use of the anaerobic digester to process some of this waste will further reduce emissions and odors coming from the facility.

Any impact associated with the project will be mitigated to less than significant levels by the mitigation monitoring plan prepared with the mitigated negative declaration. The Plan finds that no new impacts are anticipated by construction of the building addition. CR&R has also taken all steps to prevent any negative impacts from occurring from the expansion of the facility. Potential emissions may result from the use of the emergency flare from the anaerobic digester; however, this flare is used only on an emergency basis and should not result in any negative impacts.

The project will further reduce air pollutants and air toxics by providing the CR&R natural gas truck fleet with a supply of locally produced renewable natural gas. CR&R plans to add 100 CNG/LNG vehicles to its fleet over the next five years. CR&R also plans to install two new alternative fueling stations to support its fleet and will use the biomethane produced from this project at the stations.

The reduction in tailpipe diesel emissions from fleet trucks is expected to bring a net benefit to the region's air quality. The renewable natural gas used in this project will displace the equivalent of 865,000 gallons of diesel fuel, enough to power between 60 and 80 heavy-duty trash recycling trucks and reduce an estimated 57,740 tons of carbon dioxide between 2013 and 2020.

This project is not expected to result in adverse health effects to sensitive populations at the project sites or in the city where the station will be located.

Furthermore, this project is expected to bring economic benefits to the Perris community. This project will create approximately 100 construction jobs and eight permanent facility operation jobs in Perris, which currently has an unemployment rate of more than 20 percent. These jobs will include plant operators, truck mechanics, truck drivers, and plumbers, electricians, and pipe fitters for the facility construction.

Outreach Efforts

CR&R has reached a mitigated negative declaration CEQA agreement with the City of Perris/Riverside County to increase the MSW tonnage from 1,800 tons per day to 3,000 tons per day.

The SCAQMD will determine if it needs to conduct a new source review at the existing facility that already has the appropriate permits, as modifications to the facility may increase emissions. The air district will also adhere to federal and state regulations to notice residents within 1,000 feet of the site if the project will result in an increase in emissions above the threshold. The air district will post notices to the Air Resources Board and Environmental Protection Agency websites and in local newspapers if the project is using emission offsets or emission reduction credits.

Aggregate Location Analysis and Community Impacts

Energy Commission staff used data gathered from the recipient via the project proposal and a follow-up survey. The information presented in this table reflects total expected emissions that could have a potential impact on surrounding communities based on anticipated fuel production and feedstock blends. These emission numbers include emissions from fuel production, plant operation, and fuel/feedstock transport.

Table 2: Emission Increases Associated With Plant Operation, Fuel Production, and Feedstock/Fuel Transport

Project	NO^x	PM (2.5)	PM (10)	NO 2	SO2	Lead	H2S	Formaldehyde	DPM	Benzene	Acetaldehyde	1,3 Butadiene
CR&R	0	0	0	0	0	0	0	0	0	0	0	0

Source: Energy Commission staff

The following table indicates that two or more environmental justice indicators[1] exist in Perris, California. Based on the above assessment and CEQA analysis, and considered with the other projects funded under this solicitation, Perris is not disproportionately affected by this project.

Some of the notable benefits from the project include improved air quality from more efficient processing of municipal solid waste and conversion of fleets to use cleaner alternative fuels. Additionally, the project explores the use of efficient processing of waste products to produce renewable natural gas. The project is anticipated to improve the environment and result in socioeconomic benefits by generating jobs and revenue for local communities that would otherwise not be available.

Table 3: Environmental Justice Indicators

City	Minority	Poverty Level	Unemployment Rate	Age
Perris	X	X	X	

Source: Energy Commission staff

1 For this analysis, staff used the following criteria: unemployment rate exceeds the state unemployment rate (12.6 percent), statewide percentage of persons below the poverty level (13.3 percent), a minority subset represents more than 30 percent of the city population, and population under 5 years or over 65 years is 20 percent higher than the state average (7.4 percent <5 years, and 11.2 percent >65 years).

The last table in this addendum provides city-level data for the city project location to give additional insight on the community demographics where the project will be located.

Table 4: Demographic Data for Biofuel Facilities
(Percentage of total population)

City	Perris
Below poverty level	20.4
Ethnicity	
Black	15.9
American Indian or Alaskan Native	1.5
Asian or Pacific Islander	3.0
Hispanic	56.1
White	41.2
Age	
< 5 years	10.8
> 65 years	6.2
Unemployment rate	22.2

Source: Unemployment Information, EDD Labor Market Information Division; Age/ethnicity demographics, U.S. Census